



Exhibit A

THE EDWARD
JENNER
INSTITUTE
for VACCINE
RESEARCH

AntiJen

a kinetic, thermodynamic and cellular database v2.0

Full Search: [MHC Ligand](#) [MHC Kinetics](#) [T Cell Epitope](#) [TCR-MHC](#) [TAP Ligand](#) [Protein Interactions](#) [Linear B Cell Epitope](#) [Keywords](#)
[Discontinuous B Cell Epitope](#) [Diffusion Coefficient](#) [Peptide Libraries](#) [Copy Numbers](#) [Antibody binding](#) [AntiJen *BLAST](#)

Quick Search: for epitope

[Help](#)

Welcome to the AntiJen Database v2.0.

AntiJen v2.0, is a database containing quantitative binding data for peptides binding to [MHC Ligand](#), [TCR-MHC Complexes](#), [T Cell Epitope](#), [TAP](#), [B Cell Epitope](#) molecules and [immunological Protein-Protein interactions](#). Most recently, AntiJen has included [Peptide Library](#), [Copy Numbers](#) and [Diffusion Coefficient](#) data. All entries are from published experimentally determined data. The database currently holds over 24,000 entries. No data in AntiJen is from prediction experiments.

JenPep^{1,2} established a basic system which has now undergone major advancements. **AntiJen v2.0** not only contains a wider spectrum of data but also demonstrates superior search capabilities. The expanded and updated AntiJen database currently accommodates data and look-up access for:

- MHC Ligand molecules and MHC Ligand kinetics,
- T Cell Epitope, TAP and B Cell Epitope molecules,
- Protein-Protein interactions and Protein complexes,
- Peptide Library, Diffusion Coefficient and Copy Numbers data.

Development of sophisticated search mechanics incorporates the flexibility to conduct a very detailed search or a broad search from a single interface. For example,

- the search engine can accept epitope strings containing variable amino acid positions,
- specific amino acid alternatives can be requested in any epitope string,
- an optional filter can be used to target experimental data of interest,
- delimiting windows can be used to narrow searches further by epitope

length or data size.

Other novel search functionality includes:

- Quick Search, this provides instant cross-category database access;
- Keyword Search, AntiJen may be searched using keyword input alone .

References

1 Blythe MJ, Doytchinova IA, Flower DR. *JenPep: a database of quantitative functional peptide data for immunology. Bioinformatics 2002 18 434-439*
2 McSparron H, Blythe MJ, Zygouri C, Doytchinova IA, Flower DR. *JenPep: A Novel Computational Information Resource for Immunobiology and Vaccinology. J Chem Inf Comput Sci 2003 43: 1276-1287.*

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